

BEDSIDE MEDICINE FOR BEDSIDE DOCTORS

An Open Forum for brief discussions of the workaday problems of the bedside doctor. Suggestions of subjects for discussions invited.

DYSMENORRHEA

ETIOLOGY AND PATHOLOGY

LYLE G. MCNEILE, M. D. (523 West Sixth Street, Los Angeles).—Unfortunately, the exact etiology of dysmenorrhea is still unsettled. Pathologic changes are not at all constant, and it is certain that no characteristic changes exist which would apply to all cases of dysmenorrhea.

As Curtis states, "Like eclampsia, dysmenorrhea is a disease of theories, and no single conception fits all cases. Many ideas, once implicitly accepted, have had to be discarded in the light of further knowledge." Most authors divide dysmenorrhea into two types, primary and secondary. The secondary type is caused by pathologic conditions in the pelvis, usually uterine fibroids, endometriosis, salpingitis, ovarian cysts, or chronic inflammatory disease. Since the etiology of the secondary type is known, surgical correction of the pathologic disturbance usually cures the menstrual pains.

Primary dysmenorrhea, on the other hand, is not associated with any abnormality in the pelvis, and there is no unity of opinion concerning the exact cause of this type of pain. The most current theory has been advanced by Novak and Reynolds, who are of the opinion that the immediate cause of dysmenorrhea is an exaggerated contractility of the uterus, manifested by pain, if the pain threshold is lowered, or if there is an actual unbalance between the two hormones that appear to regulate this. These two hormones are the follicular factor, the normal stimulant of uterine excitability, and progesterin, the normal inhibitor. Other investigators believe that the pains associated with menstruation are due to an unbalance in the pelvic sympathetic system. It seems to the author probable that both factors are involved.

In his opinion, the rôle of malpositions of the uterus in producing dysmenorrhea has been greatly exaggerated. While it is true that both anteversion and retroversion of the uterus are frequently associated with dysmenorrhea, the physician who assumes that the correction of these conditions will likely cure the dysmenorrhea is usually doomed to disappointment.

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SYMPTOMS AND PROGNOSIS

ALBERT V. PETTIT, M. D. (2000 Van Ness Avenue, San Francisco).—I find difficulty in profitably discussing this part of the symposium assigned to me without making occasional excursions into the field of etiology and therapeutics.

Let us first consider the symptoms of primary or essential dysmenorrhea, that is, that group not dependent on gross pelvic pathology even though it may at times be associated with it.

The symptoms of primary dysmenorrhea do not begin with the menarche, as is generally believed, but from one to ten years after the regular establishment of the menstrual flow. The symptoms begin as mild discomforts, gradually increasing in intensity until the menses are often completely incapacitating.

A typical attack begins shortly before the appearance of the flow, often as much as two days before. Usually the first symptom is pain, either cramp-like or steady, felt in the region of the uterus. This is often preceded by sacral backache and practically always accompanied by it. Headache occasionally with nausea and vomiting, sweating with cold skin and pallor quickly follow. These symptoms tend to increase until the flow is well established, when they suddenly subside. The suddenness with which the symptoms sometimes occur and later disappear is suggestive of allergic phenomena, but the sympatheticonia may be entirely due to uterine pain, and the striking cure of these symptoms by presacral sympathectomy is very suggestive of this.

In certain cases all of the above symptoms are present, in others only a few; but it is surprising how often a careful history will reveal an alternation in the severity of the symptoms, a painful menstruation alternating with a relatively comfortable one. The one symptom most bitterly complained about is the backache from which the patient feels there is no escape.

In dysmenorrhea of the secondary type, that is, those in which gross pelvic pathology is responsible for pain, in the group made up of those having congenital stenoses or atresias, the lower abdominal pain begins with the menarche, and becomes very violent after two or three periods; so that menstruation in patients with complete obstructions show violent uterine pain with nausea, vomiting, shock, tender and often rigid abdomens, occasionally fever and later a palpable mass. In these cases there is pain with each menstruation, and all symptoms become progressively worse.

Secondary dysmenorrhea, due to endometriosis or adenomyoma, may appear at any time after the menarche, but usually after several years, often late in life. The symptoms cannot be distinguished from that of primary dysmenorrhea, showing essentially the same vagaries, but may begin several days before the onset of the flow; may be accompanied by a discharge of blood from the rectum, and may show marked evidence of peritoneal irritability. Palpable pelvic masses, without cervical infection with the above symptoms, make the diagnosis relatively simple.

Pain, which simply accompanies menstruation due to inflammation or with fibrosis and adhesions following inflammations, is generally adnexal in location and should be called *menorrhagia*. In this

group there is no characteristic time of appearance of the symptoms. In my experience, inflammations play an insignificant rôle in the production of menstrual pain.

It is impossible to give a prognosis which will cover all classes of dysmenorrhea.

Generally speaking, uncomplicated primary dysmenorrhea tends to disappear after the age of thirty, usually disappears after a pregnancy, and many persons are free from pain after regular intercourse is resumed. Unfortunately, many of these patients are very infertile. The cure in those who become pregnant is not necessarily due to the pregnancy itself, but to a correction of the endocrine imbalance, which also caused the sterility. Results of treatment in primary dysmenorrhea have improved markedly during the past few years, and one has only to mention the use of atropin, thyroid extract, emmenin, irradiation of the hypophysis, alcohol injection of the posterior uterine sympathetic nerve supply, and presacral sympathectomy, to indicate what may be done with good prospects of improvement and cure of the painful sensations arising in the uterus. Psychogenic components in varying degrees are present in practically all cases of dysmenorrhea due to the inevitability of recurrence. These components disappear rapidly after any real relief.

Treatment of congenital or acquired anomalies in the pathway for escape of menstrual discharges is surgical. Treatment of adenomyomata and endometriomata is effective by surgery, which is destructive, or by irradiation, which may or may not be destructive. In any event, the treatment of the pain has an excellent prognosis, but the child-bearing function is lost.

Treatment of menorrhalias due to inflammatory disease is mainly hyperthermia, with or without surgery, which can be conservative. The prognosis is good in such cases.

An interesting suggestion as to the etiology of menstrual backache has been recently made by Dr. E. Chamberlain of Temple University, who thinks that it is probably due to a cyclic recurring sacro-iliac subluxation somewhat similar to the change in the pelvic articulations seen in pregnancy. Treatment of this menstrual backache as an orthopedic problem just as most, if not all other backaches in the female should be treated, may allow us to give a good prognosis in regard to this part of dysmenorrheal symptomatology also.

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DIAGNOSIS AND TREATMENT

L. A. EMGE, M.D. (Stanford University School of Medicine, San Francisco).—Dysmenorrhea (menorrhagia), like headache, is only a symptom and not a pathologic entity nor a disease in the true sense of the word. Strictly speaking, the patient makes the diagnosis of dysmenorrhea, but the physician searches for the cause. This is a complex problem and demands painstaking attention to a number of details, without which treatment is haphazard and disappointing. It is self-evident that a good history is essential. Physical examination must be complete. Laboratory studies

should include at least a complete blood count and, if possible, a B. M. R. determination. In my own work, I make it a point to obtain data which enable me to answer the following important questions:

1. When did pain occur first in relation to the menarche?

2. When does pain occur in relation to the individual menstrual cycle?

3. What is the type, location, and duration of pain, and what are the endocrine stigmata of the body; and are there reflex disturbances?

4. What is the type of uterus (shape, size, position)?

5. How does the physical make-up of the patient compare with diet, exercise, work, and body hygiene?

6. What is the relation of the functional or emotional constitution of the patient to the severity of the pain complained of (evaluation of pain)?

7. Does pelvic pathology exist; and if so, is it incidental to, or has it a bearing upon dysmenorrhea?

With these questions satisfactorily answered, one can readily determine whether dysmenorrhea is congenital or acquired. This is of importance because the former is frequently of endocrine origin, while the latter is more often of organic origin. So-called psychogenic types of dysmenorrhea may fit into either category and are the most difficult to diagnose.

Most of the functional or endocrine types of dysmenorrhea occur simultaneously with the onset of menstruation and usually last not more than twenty-four hours. Comparatively few women experience pain over longer periods. Such pain is usually severely spastic in type, and often accompanied by nausea and vomiting, with general prostration. This combination of pain and reflex disturbances is less often encountered in secondary or acquired dysmenorrheas. In the latter type, pain more frequently appears before menstruation, beginning as early as seven to ten days prior to the beginning of the flow. This may be indicative of pelvic inflammatory disease involving the ovaries, endometritis, endometriosis, adenomyosis, large submucous polyps, or pedunculated fibroids. Ovarian cysts rarely are accompanied by dysmenorrhea, and then only when secondary inflammatory changes are present in the pelvis. Likewise, uterine displacements, as such, rarely give rise to dysmenorrhea. Many developmental and positional anomalies are only part of a general developmental disturbance due to endocrine deficiencies, the latter being the real factor in pain production. This is most often the cause of primary or functional dysmenorrhea. One cannot stress this point too forcefully, for it is a patient of this type who so frequently is subjected to uterine suspension without relief from pain. At times dysmenorrhea accompanies acquired uterine displacements, and in my opinion is due to the formation of pelvic varicosities. Patients suspected of such a condition should be examined in a standing position. Only then can the enlarged

veins be readily palpated. The insertion of a well-fitting pessary after replacement of the fundus is the best means to evaluate the importance of uterine displacements, so far as pain production is concerned. The type of pain which accompanies retroversion is very distinct for the two general types of dysmenorrhea. In the functional or endocrine group, pain is usually of the typically spastic type accompanied by reflex disturbances, while in the acquired group it is usually a disseminated pain radiating laterally along the posterior aspects of the thighs.

Next in importance in the diagnosis of dysmenorrhea is the evaluation of pain. This is a difficult task, requiring a keen appreciation and thorough understanding of the psychic make-up of women. Degrees of pain are undoubtedly differently interpreted by different individuals. This holds good for both patient and physician. Unless one delves into the functional behavior of the individual, one cannot be sure how much of the pain complained of is real, and how much of it is an expression of a defensive mechanism or some other form of a disturbed psychologic balance or emotional instability. I do not share the belief that all types of functional dysmenorrhea are purely psychogenic in origin, but I am convinced that numerous individuals magnify pain because of emotional instability. Later, when discussing treatment with such patients, this point must be stressed with tact and in a sympathetic vein, so that the patient may appreciate that her own efforts to forget her infirmity are a step toward a more speedy relief.

In the physical examination a careful observation of body stigmata will often give the clue to an endocrine disturbance. Blood and metabolism studies are indispensable for a careful diagnosis. Minor degrees of hypothyroidism are very common, and often the sole cause for dysmenorrhea. It is well known that anemic and chlorotic girls frequently suffer from dysmenorrhea. If properly diagnosed, these conditions are easily corrected. In the pelvic examination the size, shape, and position of the uterus should be carefully noted. The hypoplastic uterus frequently indicates hypopituitary disturbances. The infantile uterus is most often indicative of hypo-ovarianism, and the tall, bulky uterus which has not lost its infantile proportions is most frequently associated with hypothyroidism. Pelvic search for tumors, and fixations due to pelvic inflammatory disturbances, and endometriosis are next in importance. I should like to call attention to the fact that dysmenorrhea accompanying the latter condition invariably appears years after the onset of menstruation, and is characterized by the progressive severity of pain and by the appearance of pain late in the menstrual period, lasting for some days after the cessation of the flow. These patients also frequently complain of premenstrual soreness well distributed throughout the pelvis.

To recapitulate, the diagnosis of dysmenorrhea concerns itself with determining (1) the type of dysmenorrhea; (2) its relation to the menstrual cycle; (3) the evaluation of pain; (4) its locali-

zation; (5) the evaluation of the organic make-up; and (6) the evaluation of pelvic findings.

Unless one can make a careful diagnosis, the treatment of dysmenorrhea is about as unscientific as that of headache. I do not wish to imply that it is always possible to devise the proper type of treatment for every patient even after a very careful analysis of the complaint, but one can come close to such a goal.

Since there is a large group of young women who, under the stress of school, college, or business life, neglect their body hygiene, one should delve into their mode of living as well as their mental fitness, and give proper advice as to exercise and rest and mental hygiene. Sex questions must be cautiously and tactfully approached. In these days of diet fads many young women suffer from food deficiencies. Anemias should be corrected and a proper dietary regimen should be ordered regardless of the wishes of the patient to remain slim and boy-like. It has been advocated recently that a high carbohydrate diet, because of its influence on blood sugar, relieves dysmenorrhea, for it has been found that in certain individuals hypoglycemia and dysmenorrhea go together. As a rule, there is no reason why the average young woman should curtail her activities during menstruation, for there is no proof that moderate athletics have a detrimental influence on menstruation. Moderately hot baths or showers create no disturbances when used during the menstrual flow. In fact, in many instances minor types of dysmenorrhea are completely relieved if patients are permitted to continue their ordinary activities and make use of hot baths freely during the menstrual period. I have not hesitated to let young women take hot douches during menstruation in order to relieve pain, and I have never found that this procedure has created pelvic disturbances. To the contrary, heat applied in this manner, or in the form of a "sitz" bath, is good medicine, and is quite preferable to more radical procedures. In this connection, it may be of interest that in both primary and secondary types of dysmenorrhea the utilization of detergent suppositories is of a distinct benefit to the patient. For many years I have used such a suppository commercialized by Wyeth and marketed as No. 426, which, aside from the detergent agents, contains an anodyne. I order the patients to precede the use of these suppositories with a copious plain hot water douche, to be taken night and morning, beginning three days before menstruation and carried into the second day of the flow. This procedure has given immediate and often permanent relief after a few months of self-treatment. The patient soon learns how often and how long to use these agents. It saves her office visits and medical care, and often relieves her sufficiently from pain to continue her daily duties during menstruation with reasonable comfort. It is my experience that in obscure types of functional dysmenorrhea where endocrine therapy has failed, this simple procedure will give satisfactory relief.

Where dysmenorrhea is frankly due to an endocrine dyscrasia the choice of treatment may be

very simple or very complicated. The simplest problem offers itself in thyroid deficiencies. It is rather interesting to know in this connection that in hypothyroidism dysmenorrhea is about as often relieved by the administration of thyroid as by iodine therapy. Individuals who present the picture of pituitary deficiency are frequently relieved by the administration of anterior pituitary-like hormones, of which there is a wide range of choice—antuitrin—S, follutein, Collip's A. P. L., and similar substances. The dosage is arbitrary, and is to be determined by the amount of relief experienced. Usually one to two cubic centimeters given hypodermically every other day for six doses preceding menstruation, will produce the desired result. The disadvantage of this treatment is the necessity of the patient's visits to the doctor's office. Therefore, whenever possible, one should try ether-washed emmenin, a placental hormone of the anterior pituitary-like type. This is taken by mouth in dosages varying from one to three teaspoonfuls daily. In my own experience it is about as efficacious as hypodermic medication, but not always well tolerated because of the harsh taste. It is best to start with a fairly liberal dose, reducing the amount after relief from pain has been experienced. It is not at all unusual to obtain permanent relief after two or three months of such a regimen.

Individuals of the hypo-ovarian type are often relieved by the administration of estrogenic substances such as theelin, amniotin, folliculin, folliculin menformon, progynon, and hypodermic agomensin, and other similar substances. Here, too, the dosage is arbitrary. The trend is toward larger doses up to 1,000 international units, given hypodermically every other day until relief from pain has been obtained. After this the interval is increased, and ultimately the dosage is reduced. Many of these substances are put up in oil and are not always well tolerated by every patient. The advantage claimed for the oil preparations is that they are absorbed more slowly, which permits longer intervals between injections. I am not certain that this is correct. The administration of the water-soluble types, such as folliculin menformon, is painless, but is said to require a longer continuation of administration at shorter intervals. I also doubt this statement. One must take into consideration the reaction of the patient in choosing the proper agent and the proper dosage.

The disturbing factor in treating dysmenorrhea related to endocrine disturbances is that, scientifically speaking, it is not always rational. One can understand that the anterior pituitary-like hormones such as emmenin, antuitrin-S, follutin, A. P. L., etc., will relieve a spastic uterus, because they also produce an increase in uterine and para-uterine vascularity. It is not so easy to rationalize the use of thyroid and iodine, and it certainly is not easy to explain the action of estrogenic substances, for they are supposed to produce a contraction of the uterus. Nevertheless, clinical experience and results justify the use of these substances, and at times demand an interchange or even a combination of substances. After

all, it is the relief of the patient that counts, even if our efforts cannot be explained on a purely scientific basis; and in its final analysis it matters not whether the action of the substance is specific, pharmacodynamic, or psychotherapeutic. All of these factors are cleared up by time and usage. At this particular time our knowledge of the endocrine behaviors and their relation to our functional lives and our sympathetic nervous systems is still very obscure. Laboratory experimentation alone is not going to give us an answer as to how these substances work in the human being. We have to go on trying, and thus add to our store of knowledge by trial and error. The boost that has been given the poor sufferer from dysmenorrhea by the endocrine substances is the greatest advancement made in therapeutics in the field of gynecology.

The question of treatment of acquired dysmenorrhea due to inflammatory or neoplastic disturbances can be answered with few words. In the first place, comparatively few inflammatory disturbances are accompanied by dysmenorrhea, once they reach the chronic stage. An exception to this is endometriosis, and that rare disease endometritis! If the ordinary local treatments such as I have outlined bring no success, the various forms of intensified heat treatment are worth trying. Diathermy has not been successful in our hands. We have had no experience with the Elliott machine, but we have had extensive experience with hyperthermia given in the form of high-heat prolonged baths. The use of this method is rather new, and we can only give our impressions. I prefer to simply state that there is a field for this method. From other sources I have learned that hyperthermia induced by short-wave electric currents promises similar results. If any of these conservative forms of treatment fail to produce results, surgical methods are in order. The same holds true of dysmenorrhea due to benign neoplastic disturbances. Here surgery is usually preferable to irradiation, since the ovaries can be preserved.

I have left the discussion of surgical and mechanical therapy of functional dysmenorrhea to the last. At times when all other therapeutic measures have failed, we are forced to resort to mechanical treatment. It should be resorted to only after all simple methods have been exhausted. So-called intractable dysmenorrhea is very rare. Just what constitutes intractability depends in a large measure upon the state of mind of both patient and doctor. And may it be said without malice that the more patient the doctor the less the incidence of intractability—and clever hands are often the reason for a surgical approach to the problem, when a patient mind would have found an easier and often better way out.

The simplest form of mechanical treatment is the use of negative galvanism applied directly to the cervical canal. It can be used either in the form of a smooth or interrupted current, and must be given over a period of several months. The use of negative galvanism, which produces cervical dilation and increases the uterine blood supply, is in most instances preferable, and more perma-

nent than forceful cervical dilation under an anesthetic. It is decidedly preferable to the stem pessary. It must not be used in the presence of cervicitis.

A very efficacious method of controlling dysmenorrhea, which has failed to respond to other measures, is the alcohol block of the paracervical ganglia, originally advocated by Blos. This method demands a keen sense of touch, and vivid visual memory of the relations of the structures in the immediate vicinity of the cervix. By passing a 20-gauge 3-inch needle through the posterior lip of the cervix into the paracervical tissue in the vicinity of the angle formed by the uterosacral and broad ligaments, five cubic centimeters of 5 per cent novocain in 70 per cent alcohol are injected slowly into the areolar tissue which contains Frankenhäuser's ganglia. One injection is usually sufficient, and gives relief to about 80 per cent of patients. A repeated injection relieves another 10 per cent. For those who are not relieved, we advise resection of the presacral nerve. Surgery of the displaced uterus is rarely necessary, and will give relief only if pain is due to unusual venous dilatation, varicosities and varicoceles of the pelvic circulation. No uterus should be suspended for dysmenorrhea without first having convinced one's self that replacement of the organ by a well-fitting pessary relieves the pain. Should the operation be indicated, the basal ligaments should be shortened and unusually large varicosities ligated.

When dysmenorrhea is known to be of inflammatory, neoplastic, or endometrial origin, destructive surgery is unavoidable.

Radiologic treatment of either the pituitary or ovarian regions is of very doubtful value and demands a critical interpretation. Doctors Newell and Pettit of this institution have recorded their studies, and they will appear in this JOURNAL in due season.

There then remains nothing further to say except that many women who suffer at the time of their menstrual periods are relieved spontaneously after they enter their "twenties." Child-birth and orderly sex life bring relief to untold thousands of others, while some go on suffering for the entire span of their menstrual life, learning to bear their burden just because they are women.

Psychic Behavior at High Altitudes.—Jongbloed investigated whether the oxygen deficiency would impair the alertness of an aviator flying at an altitude of 5,000 meters, pointing out that such heights occasionally are necessary when high mountains have to be crossed, particularly if cloudiness obscures the mountains. The alertness of the aviator is especially important in case of so-called blind flying that may be necessary on account of the cloudiness. The author found that the rarefaction of the atmosphere at the altitude of 5,000 meters causes only slight impairment of the mental alertness in the radio telegrapher. He found that the slowing down of the mental alertness was most noticeable in the choice reactions, the regularity being influenced more strongly than the duration of the reaction time. However, the author is convinced that a trained aviator can safely fly for about an hour at an altitude of 5,000 meters, but that a further increase in the altitude decreases the alertness rapidly

and, for instance, blind flying during bad weather makes higher demands on the alertness of the aviator. Three of the author's test subjects had to breathe oxygen shortly after an altitude of 5,000 meters had been reached, while four others had difficulties. This indicates that at this altitude difficulties may be encountered in passengers, for, although the aviators can be selected in air transportation, the passengers cannot. Accordingly it is necessary to take measures so that air transportation will not cause difficulties even in the weakest of the passengers. The author states that an oxygen supply should be available for altitudes of more than 5,000 meters. However, he thinks that breathing-masks and other instruments are likely to alarm the passengers and should be avoided. He thinks that since the cabin of a modern plane has a regulable ventilation system, it would probably be possible to keep the oxygen tension high enough by forcing in a supply of oxygen.—*Klinische Wochenschrift*.

Age Incidence of Causes of Illness.—Collins presents the results of periodic canvasses of 8,758 white families living in 130 localities in eighteen states and including 39,185 individuals. Each family was visited at intervals of from two to four months for a period long enough to obtain a sickness record for one year. On the first call a record was made of the number of members of the household, together with data about sex, age, marital status, and communicable disease history of each person. On succeeding visits the canvasser recorded all illness that had occurred since the preceding call, with such pertinent facts about each case as the date of onset, the duration of disability and of confinement to bed, the nature of such medical service as was obtained, and the termination of the illness. The surveyed families include representation from nearly all geographic sections, from rural, urban and metropolitan areas and from all income classes, and consist of both native-born and foreign-born persons. The proportions of these various elements included are not identical with those in the population of the United States, but the variations are not generally large. In other respects also the surveyed group is not dissimilar to families in the general white population of the United States. The age incidence of all the specific diseases that were reported in sufficient numbers to approximate a reasonably accurate age curve are depicted in graphs and tables. While there are irregular chance variations in many of the curves, they serve to indicate the general picture of the age incidence of even the less frequent diagnoses.—*Public Health Reports*.

If one continues to ply one's mind, growth ensues, even in the years formerly supposed to be marked by stagnation and decay. To foster this growth one must not trust too much to the casual gains of everyday work and experience. One must put forth well-directed efforts. Merely to maintain one's status is not enough. He who is satisfied to stand still will soon slip backward. To grow one must go on learning. So it has come about that education, formerly thought to be an activity limited to the days of one's youth, is now seen in one form or another to be desirable in all periods of life. Thus one continues to improve; thus one keeps young.—Leon J. Richardson.

"Poor posture" is a sign that the child needs a careful and complete medical examination to discover the underlying cause of poor posture. The "poor posture," like toothache, is really nature's warning that something is wrong and the child needs the physician's help to discover what that "something" is and to tell him how to correct it. When the cause is removed or corrected, the poor posture usually disappears. Treat the child, not the posture.

Some of the grotesque attitudes in which children sit or lie have a real purpose back of them, for they relax the child's tired muscles and let him "rest up" most quickly.—LeRoy A. Wilkes, M. D.

The ladder of life is full of splinters, but they always prick the hardest when we are sliding down.—W. L. Brownell.